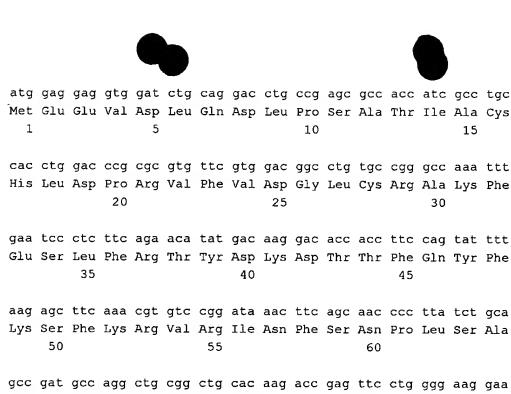
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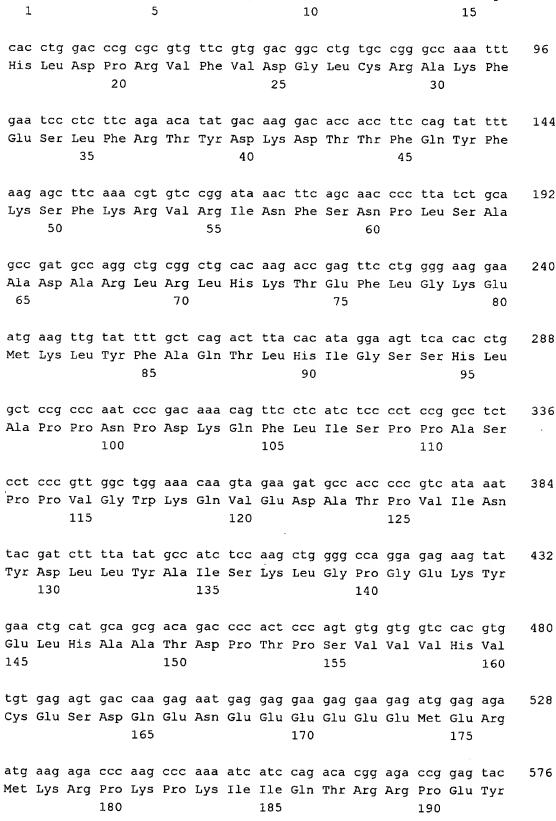




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Lys Ser Phe Lys Arg Val Arg Ile Asn Phe Ser Asn Pro Leu Ser Ala 50 55 60

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Ala Pro Pro Asn Pro Asp Lys Gln Phe Leu Ile Ser Pro Pro Ala Ser 100 105 110

Pro Pro Val Gly Trp Lys Gln Val Glu Asp Ala Thr Pro Val Ile Asn 115 120 125

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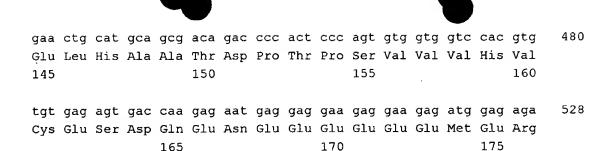
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Lys Ser Phe Lys Arg Val Arg Ile Asn Phe Ser Asn Pro Leu Ser Ala 50 55

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Met Lys Leu Tyr Phe Ala Gln Thr Leu His Ile Gly Ser Ser His Leu 85

Ala Pro Pro Asn Pro Asp Lys Gln Phe Leu Ile Ser Pro Pro Ala Ser 105

Pro Pro Val Gly Trp Lys Gln Val Glu Asp Ala Thr Pro Val Ile Asn 120

Tyr Asp Leu Tyr Ala Ile Ser Lys Leu Gly Pro Gly Glu Lys Tyr

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Thr Pro Ile His Leu Ser 195

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Lys Ser Phe Lys Arg Val Arg Ile Asn Phe Ser Asn Pro Leu Ser Ala 50 55 60

Ala Asp Ala Arg Leu Arg Leu His Lys Thr Glu Phe Leu Gly Lys Glu 65 70 75 80

Met Lys Leu Tyr Phe Ala Gln Thr Leu His Ile Gly Ser Ser His Leu 85 90 95

Ala Pro Pro Asn Pro Asp Lys Gln Phe Leu Ile Ser Pro Pro Ala Ser 100 105 110

Pro Pro Val Gly Trp Lys Gln Val Glu Asp Ala Thr Pro Val Ile Asn 115 120 125

Tyr Asp Leu Leu Tyr Ala Ile Ser Lys Leu Gly Pro Gly Glu Lys Tyr 130 135 140





Glu Leu His Ala Ala Thr Asp Pro Thr Pro Ser Val Val His Val
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65 70 75 80

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75 80

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Lys Ser Phe Arg Arg Val Arg Ile Asn Phe Ser His Pro Lys Ser Ala 50 55 60

Ala Arg Ala Arg Ile Glu Leu His Glu Thr Gln Phe Arg Gly Lys Lys 65 70 75 80





Leu Lys Leu Tyr Phe Ala Gln Val Gln Thr Pro Glu Thr Asp Gly Asp
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Lys Leu His Leu Ala Pro Pro Gln Pro Ala Lys Gln Phe Leu Ile Ser 100 105 110

Pro Pro Ser Ser Pro Pro Val Gly Trp Lys Pro Ile Ser Asp Ala Thr
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Pro Val Leu Asn Tyr Asp Leu Leu Tyr Ala Val Ala Lys Leu Gly Pro 130 135 140

Gly Glu Lys Tyr Glu Leu His Ala Gly Thr Glu Ser Thr Pro Ser Val 145 150 155 160

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Lys Ser Phe Lys Arg Val Arg Ile Asn Phe Ser Asn Pro Phe Ser Ala 50 55 60

Ala Asp Ala Arg Leu Gln Leu His Lys Thr Glu Phe Leu Gly Lys Glu 65 70 75 80

Met Lys Leu Tyr Phe Ala Gln Thr Leu His Ile Gly Ser Ser His Leu85 90 95

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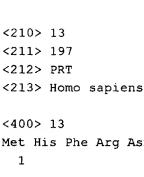
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Pro Ile His Leu Ser 195



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Asp Ile Thr Phe Gln Tyr Phe Lys Ser Phe Lys Arg Val Arg Ile Asn
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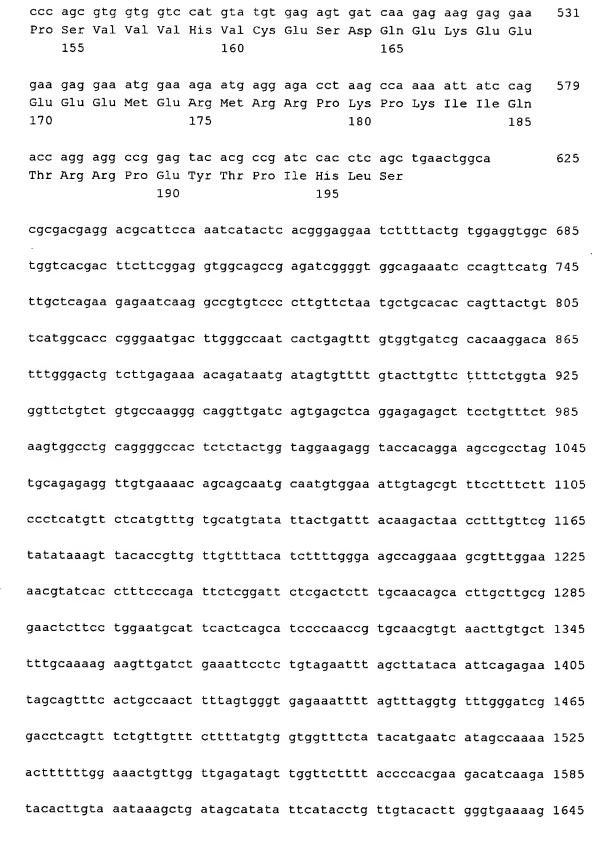
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Lys Ser Phe Lys Arg Val Arg Ile Asn Phe Ser Asn Pro Phe Ser Ala 50 55 60

Ala Asp Ala Arg Leu Gln Leu His Lys Thr Glu Phe Leu Gly Lys Glu 65 70 75 80

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Ala Pro Pro Asn Pro Asp Lys Gln Phe Leu Ile Ser Pro Pro Ala Ser 100 105 110





Pro Pro Val Gly Trp Lys Gln Val Glu Asp Ala Thr Pro Val Ile Asn 115 120 125

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Lys Ser Phe Lys Arg Val Arg Ile Asn Phe Ser Asn Pro Phe Ser Ala 50 55 60

Ala Asp Ala Arg Leu Gln Leu His Lys Thr Glu Phe Leu Gly Lys Glu
65 70 75 80

Met Lys Leu Tyr Phe Ala Gln Thr Leu His Ile Gly Ser Ser His Leu 85 90 95

Ala Pro Pro Asn Pro Asp Lys Gln Phe Leu Ile Ser Pro Pro Ala Ser 100 105 110

Pro Pro Val Gly Trp Lys Gln Val Glu Asp Ala Thr Pro Val Ile Asn

115 120 125

Tyr Asp Leu Leu Tyr Ala Ile Ser Lys Leu Gly Pro Gly Glu Lys Tyr 130 135 140

Glu Leu His Ala Ala Thr Asp Thr Thr Pro Ser Val Val Val His Val
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Cys Glu Ser Asp Gln Glu Lys Glu Glu Glu Glu Met Glu Arg Met
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gaagggggaa tgccagcccc tagc atg gac tgt gat gtt tcc act ctg gtt 231 Met Asp Cys Asp Val Ser Thr Leu Val

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Ala Cys Val Val Asp Val Glu Val Phe Thr Asn Gln Glu Val Lys Glu
10 20 25

aaa ttt ggg gga ctg ttt cgg act tat gat gac tgt gtg acg ttc cag 32° Lys Phe Gly Gly Leu Phe Arg Thr Tyr Asp Asp Cys Val Thr Phe Gln 30 35 40

cta ttt aag agt ttc aga cgt gtc cgt ata aac ttc agc aat cct aaa 375 Leu Phe Lys Ser Phe Arg Arg Val Arg Ile Asn Phe Ser Asn Pro Lys



	-	-	-	-						_				aga Arg		423
			-				-	-	-	-				aca Thr	_	471
,	_		_		_	_			_		-		-	ttt Phe		519
	_							_	-		_			aac Asn 120	-	567
_	_		-				-				_		_	aaa Lys		615
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	_				_									cct Pro		759
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ccto	gggtg	gtt t	eggtt	gtt	g ag	gatto	cctto	ctt	gtta	atca	agco	ctcto	egg a	acaaa	agggc	930
tagg	gaaaa	agg t	igata	atgto	ct co	ctgat	cata	a tca	ataco	ccat	taaq	gtata	aac o	ccati	attta	990
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<212> PRT

<213> Homo sapiens

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Thr Tyr Asp Asp Cys Val Thr Phe Gln Leu Phe Lys Ser Phe Arg Arg
35 40 45

Val Arg Ile Asn Phe Ser Asn Pro Lys Ser Ala Ala Arg Ala Arg Ile 50 55 60

Glu Leu His Glu Thr Gln Phe Arg Gly Lys Lys Leu Lys Leu Tyr Phe 65 70 75 80

Ala Gln Val Gln Thr Pro Glu Thr Asp Gly Asp Lys Leu His Leu Ala 85 90 95

Pro Pro Gln Pro Ala Lys Gln Phe Leu Ile Ser Pro Pro Ser Ser Pro

100 105 110

Pro Val Ser Trp Gln Pro Ile Asn Asp Ala Thr Pro Val Leu Asn Tyr
115 120 125

Asp Leu Leu Tyr Ala Val Ala Lys Leu Gly Pro Gly Glu Lys Tyr Glu 130 135 140

Leu His Ala Gly Thr Glu Ser Thr Pro Ser Val Val Val His Val Cys
145 150 155 160

Asp Ser Asp Ile Glu Glu Glu Glu Asp Pro Lys Thr Ser Pro Lys Pro 165 170 175

Lys Ile Ile Gln Thr Arg Arg Pro Gly Leu Pro Pro Ser Val Ser Asn 180 185 190

<210> 19

<211> 192

<212> PRT

<213> Homo sapiens

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Thr Tyr Asp Asp Cys Val Thr Phe Gln Leu Phe Lys Ser Phe Arg Arg 35 40 45

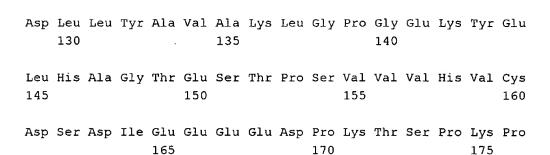
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Glu Leu His Glu Thr Gln Phe Arg Gly Lys Leu Lys Leu Tyr Phe
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Ala Gln Val Gln Thr Pro Glu Thr Asp Gly Asp Lys Leu His Leu Ala 85 90 95

Pro Pro Gln Pro Ala Lys Gln Phe Leu Ile Ser Pro Pro Ser Ser Pro 100 105 110

Pro Val Ser Trp Gln Pro Ile Asn Asp Ala Thr Pro Val Leu Asn Tyr 115 120 125



Lys Ile Ile Gln Thr Arg Arg Pro Gly Leu Pro Pro Ser Val Ser Asn 180 185 190

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<221> CDS <222> (23)..(745)

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Phe Glu Ala Arg Glu Gln Lys Glu Arg Phe Glu Ala Leu Phe Thr Ile
60 65 70

tat gat gac cag gtt act ttt cag ctg ttt aaa agc ttt aga aga gtc 29





Tyr Asp	Asp G	31n Va	1 Thr 80	Phe	Gln	Leu	Phe	Lys 85	Ser	Phe	Arg	Arg	Val 90	
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ctc cac Leu His	Glu T	_				-	_		_				-	388
cag gtg Gln Val		-		-			-	_				_	_	436
ccc cag Pro Gln 140	_									-				484
gtg ggg Val Gly 155				-		-	_		_				_	532
tta ctc Leu Leu			l Ser											580
cac gcg His Ala	Gly T		-						_		_	_	_	628
agt gaa Ser Glu	_	_		-							_			676
gcc cag Ala Gln 220														724
cag acc Gln Thr 235	_	-		_	tgag	igeco	tt g	gttg	ıtggt	ig co	gaggo	egget	:	775
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<210> 21 <211> 241





<212> PRT

<213> Homo sapiens

<400> 21

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Glu Asp Asp Leu Asp Glu Met Met Asp Leu Ser Asp Leu Pro Thr Ser

Leu Phe Ala Cys Ser Val His Glu Ala Val Phe Glu Ala Arg Glu Gln 50 55 60

Lys Glu Arg Phe Glu Ala Leu Phe Thr Ile Tyr Asp Asp Gln Val Thr
65 70 75 80

Phe Gln Leu Phe Lys Ser Phe Arg Arg Val Arg Ile Asn Phe Ser Lys 85 90 95

Pro Glu Ala Ala Ala Arg Ala Arg Ile Glu Leu His Glu Thr Asp Phe 100 105 110

Asn Gly Gln Lys Leu Lys Leu Tyr Phe Ala Gln Val Gln Met Ser Gly 115 120 125

Glu Val Arg Asp Lys Ser Tyr Leu Leu Pro Pro Gln Pro Val Lys Gln 130 135 140

Phe Leu Ile Ser Pro Pro Ala Ser Pro Pro Val Gly Trp Lys Gln Ser 145 150 155 160

Glu Asp Ala Met Pro Val Ile Asn Tyr Asp Leu Leu Cys Ala Val Ser 165 170 175

Lys Leu Gly Pro Gly Glu Lys Tyr Glu Leu His Ala Gly Thr Glu Ser 180 185 190

Thr Pro Ser Val Val His Val Cys Glu Ser Glu Thr Glu Glu
195 200 205

Glu Glu Thr Lys Asn Pro Lys Gln Lys Ile Ala Gln Thr Arg Arg Pro 210 215 220

Asp Pro Pro Thr Ala Ala Leu Asn Glu Pro Gln Thr Phe Asp Cys Ala 225 230 235 240





Leu

<210> 22

<211> 241

<212> PRT

<213> Homo sapiens

<400> 22

Met Leu Arg Asp Thr Met Lys Ser Trp Asn Asp Ser Gln Ser Asp Leu

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Cys Ser Thr Asp Gln Glu Glu Glu Glu Met Ile Phe Gly Glu Asn 20 25 30

Glu Asp Asp Leu Asp Glu Met Met Asp Leu Ser Asp Leu Pro Thr Ser 35 40 45

Leu Phe Ala Cys Ser Val His Glu Ala Val Phe Glu Ala Arg Glu Gln 50 55 60

Lys Glu Arg Phe Glu Ala Leu Phe Thr Ile Tyr Asp Asp Gln Val Thr 65 70 75 80

Phe Gln Leu Phe Lys Ser Phe Arg Arg Val Arg Ile Asn Phe Ser Lys 85 90 95

Pro Glu Ala Ala Ala Arg Ala Arg Ile Glu Leu His Glu Thr Asp Phe 100 105 110

Asn Gly Gln Lys Leu Lys Leu Tyr Phe Ala Gln Val Gln Met Ser Gly
115 120 125

Glu Val Arg Asp Lys Ser Tyr Leu Leu Pro Pro Gln Pro Val Lys Gln 130 135 140

Phe Leu Ile Ser Pro Pro Ala Ser Pro Pro Val Gly Trp Lys Gln Ser 145 150 155 160

Glu Asp Ala Met Pro Val Ile Asn Tyr Asp Leu Leu Cys Ala Val Ser 165 170 175

Lys Leu Gly Pro Gly Glu Lys Tyr Glu Leu His Ala Gly Thr Glu Ser 180 185 190





Thr Pro Ser Val Val Val His Val Cys Glu Ser Glu Thr Glu Glu Glu 195 200 205

Glu Glu Thr Lys Asn Pro Lys Gln Lys Ile Ala Gln Thr Arg Arg Pro 210 215 220

Asp Pro Pro Thr Ala Ala Leu Asn Glu Pro Gln Thr Phe Asp Cys Ala 225 230 235 240

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<210> 23

<211> 720

<212> DNA

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ttt gaa gca ctc ttc acc atc tat gat gac cag gtt act ttt cag ctg 193 Phe Glu Ala Leu Phe Thr Ile Tyr Asp Asp Gln Val Thr Phe Gln Leu 50 55 60

ttt aaa agc ttt aga aga gtc aga ata aat ttc agc aaa cct gaa gcg 241 Phe Lys Ser Phe Arg Arg Val Arg Ile Asn Phe Ser Lys Pro Glu Ala 65 70 75 80

gca gca aga gcg cga ata gaa ctc cac gaa aca gac ttc aat ggg cag 289 Ala Ala Arg Ala Arg Ile Glu Leu His Glu Thr Asp Phe Asn Gly Gln 85 90 95

aag cta aag cta tat ttt gca cag tcc tat ctc ctg ccg ccc cag cct 337





Lys Leu Lys	Leu Tyr	Phe Ala	Gln	Ser	Tyr	Leu	Leu	Pro	Pro	Gln	Pro
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Val	Lys	Gln	Phe	Leu	Ile	Ser	Pro	Pro	Ala	Ser	Pro	Pro	Val	Gly	Trp	
		115					120					125				

aag	cag	agc	gaa	gat	gcg	atg	cct	gtt	ata	aat	tat	gat	tta	ctc	tgt	433
Lys	Gln	Ser	Glu	Asp	Ala	Met	Pro	Val	Ile	Asn	Tyr	Asp	Leu	Leu	Cys	
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aca gag tcg aca ccc agc gtg gtg gtt cat gtc tgt gaa agt gaa act 529 Thr Glu Ser Thr Pro Ser Val Val His Val Cys Glu Ser Glu Thr 165 170 175

gaa gag gaa gag aca aaa aac ccc aaa cag aaa att gcc cag aca 577 Glu Glu Glu Glu Glu Thr Lys Asn Pro Lys Gln Lys Ile Ala Gln Thr 180 185 190

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210

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<212> PRT

<213> Homo sapiens

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Leu Asp Glu Met Met Asp Leu Ser Asp Leu Pro Thr Ser Leu Phe Ala 20 25 30

Cys Ser Val His Glu Ala Val Phe Glu Ala Arg Glu Gln Lys Glu Arg
35 40 45



Phe Glu Ala Leu Phe Thr Ile Tyr Asp Asp Gln Val Thr Phe Gln Leu 50 55 60

Phe Lys Ser Phe Arg Arg Val Arg Ile Asn Phe Ser Lys Pro Glu Ala 65 70 75 80

Ala Ala Arg Ala Arg Ile Glu Leu His Glu Thr Asp Phe Asn Gly Gln
85 90 95

Lys Leu Lys Leu Tyr Phe Ala Gln Ser Tyr Leu Leu Pro Pro Gln Pro 100 105 110

Val Lys Gln Phe Leu Ile Ser Pro Pro Ala Ser Pro Pro Val Gly Trp
115 120 125

Lys Gln Ser Glu Asp Ala Met Pro Val Ile Asn Tyr Asp Leu Leu Cys 130 135 140

Ala Val Ser Lys Leu Gly Pro Gly Glu Lys Tyr Glu Leu His Ala Gly 145 150 155 160

Thr Glu Ser Thr Pro Ser Val Val Val His Val Cys Glu Ser Glu Thr 165 170 175

Glu Glu Glu Glu Glu Thr Lys Asn Pro Lys Gln Lys Ile Ala Gln Thr 180 185 190

Arg Arg Pro Asp Pro Pro Thr Ala Ala Leu Asn Glu Pro Gln Thr Phe 195 200 205

Asp Cys Ala Leu 210

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<212> PRT

<213> Homo sapiens

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Leu Asp Glu Met Met Asp Leu Ser Asp Leu Pro Thr Ser Leu Phe Ala
20 25 30





Cys Ser Val His Glu Ala Val Phe Glu Ala Arg Glu Gln Lys Glu Arg
35 40 45

Phe Glu Ala Leu Phe Thr Ile Tyr Asp Asp Gln Val Thr Phe Gln Leu 50 55 60

Phe Lys Ser Phe Arg Arg Val Arg Ile Asn Phe Ser Lys Pro Glu Ala 65 70 75 80

Ala Ala Arg Ala Arg Ile Glu Leu His Glu Thr Asp Phe Asn Gly Gln
85 90 95

Lys Leu Lys Leu Tyr Phe Ala Gln Ser Tyr Leu Leu Pro Pro Gln Pro 100 105 110

Val Lys Gln Phe Leu Ile Ser Pro Pro Ala Ser Pro Pro Val Gly Trp
115 120 125

Lys Gln Ser Glu Asp Ala Met Pro Val Île Asn Tyr Asp Leu Leu Cys 130 135 140

Ala Val Ser Lys Leu Gly Pro Gly Glu Lys Tyr Glu Leu His Ala Gly 145 150 155 160

Thr Glu Ser Thr Pro Ser Val Val Val His Val Cys Glu Ser Glu Thr
165 170 175

Glu Glu Glu Glu Glu Thr Lys Asn Pro Lys Gln Lys Ile Ala Gln Thr 180 185 190

Arg Arg Pro Asp Pro Pro Thr Ala Ala Leu Asn Glu Pro Gln Thr Phe 195 200 205

Asp Cys Ala Leu 210

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gaaattggga cattcatcca ataaaatgtc actggggaaa aaaattttaa ctacacttca 240
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